

#### ABSTRACT

[0053] The present invention relates to a method for measuring and evaluating surface irregularities, comprising: illuminating a surface (8) by means of at least two sources of light (2, 3, 13, 14) arranged along a row which is substantially perpendicular to a reference plane (4) along which said surface (8) is arranged, each one of said sources of light (2, 4, 13, 14) presenting an angle of incidence ( $\beta_1, \beta_2, \beta_3, \beta_4$ ) to at least one partial surface (1) forming part of said surface (8), generating by means of each source of light (2, 3, 13, 14) a set of reflections respectively from said surface (8), wherein each set contains at least one reflection from said partial surface (1), and detecting said sets of reflections by means of a light-sensitive detector (7). The invention is characterized in that it comprises: extrapolating, for each partial surface (1) and by means of detected light intensities (P) for each one of the at least two light sources (1, 2, 13, 14) and their associated angles of incidence ( $\beta_1, \beta_2, \beta_3, \beta_4$ ), an imaginary angle of incidence ( $\beta_0$ ) for which no reflection would be detected, providing by means of said imaginary angle of incidence ( $\beta_0$ ) a surface slope value ( $\alpha$ ) of said partial surface (1) in the direction of said sources of light (2, 3), and acquiring a height profile for said surface (8) by means of the slope values ( $\alpha$ ) for the partial surfaces (1) of said surface (8). The invention also relates to an arrangement for measuring and evaluating surface irregularities. By means of the invention, an improved method for examining painted or unpainted surfaces is

provided, for providing measurements of the waviness of such surfaces.